

Review on Power Quality Improvements in Grid-Connected PV System Using Hybrid Technology with MMC

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Abstract: In recent trends, photo-voltaic (PV) is mostly build upon competitive technological development of power quality (PQ) issues. In this article, a hybrid control strategy is implemented with multi-level inverter (MLI) to improve PQ features. As a result, the combination of these controllers with suitable level of MLI could improve the PQ features in a significant way the demand for electricity is raising in the country with an increase in population. To meet the peak load demands renewable energy sources like solar and wind can be used along with conventional sources. Compared to wind power generation the installation cost and the production cost are less in the Photo-Voltaic (PV) energy generation. But due to the widespread use of nonlinear electronic equipment's, the power quality issues are more in grid connected PV systems Solar PV is now, after hydro and wind power, the third most important renewable energy source in terms of globally installed capacity. More than 100 countries use solar PV. Installations may be ground-mounted (and sometimes integrated with farming and grazing) or built into the roof or walls of a building (either building integrated with photovoltaics or simply rooftop).

Keywords: Fuzzy Logic Controller, Total Harmonic Distortion, Multi-level inverter (MLI), Maximum Power Point Tracking, Power quality (PQ), Hybrid control, Electrical micro grids (MGs).

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